

Supporting Information

Breast Cancer Cell Membrane Camouflaged Nanoparticles for Homologous-targeted NIR-II Phototheranostics

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The photothermal conversion efficiency (η) was calculated according to the Equation S1[Ref:1] :

$$\eta = \frac{hs(T_{max} - T_{surr}) - Q_{Dis}}{I(1 - 10^{-A1064})} \quad (S1)$$

Where h means the heat transfer coefficient, s represents the surface area of the container, T_{max} is equilibrium temperature, T_{surr} is the ambient temperature of the environment, Q_{Dis} is the heat dissipation from the light absorbed by the solvent and the container, I is the incident laser power density, $A1064$ represents the absorption of sample at 1064 nm. The calculation of the hs is following the Equation (S2).

$$\tau_s = \frac{m_D c_D}{hs} \quad (S2)$$

Where τ_s means the time constant for heat transfer of the system, m_D and c_D represents the mass and heat capacity ($4.2 \text{ J} \cdot \text{g}^{-1} \cdot ^\circ\text{C}^{-1}$) of the solvent, respectively. The value of τ_s is calculated according to the Equation (S3) and (S4).

$$t = -\tau_s \ln \theta \quad (S3)$$

$$\theta = \frac{T - T_{surr}}{T_{max} - T_{surr}} \quad (S4)$$

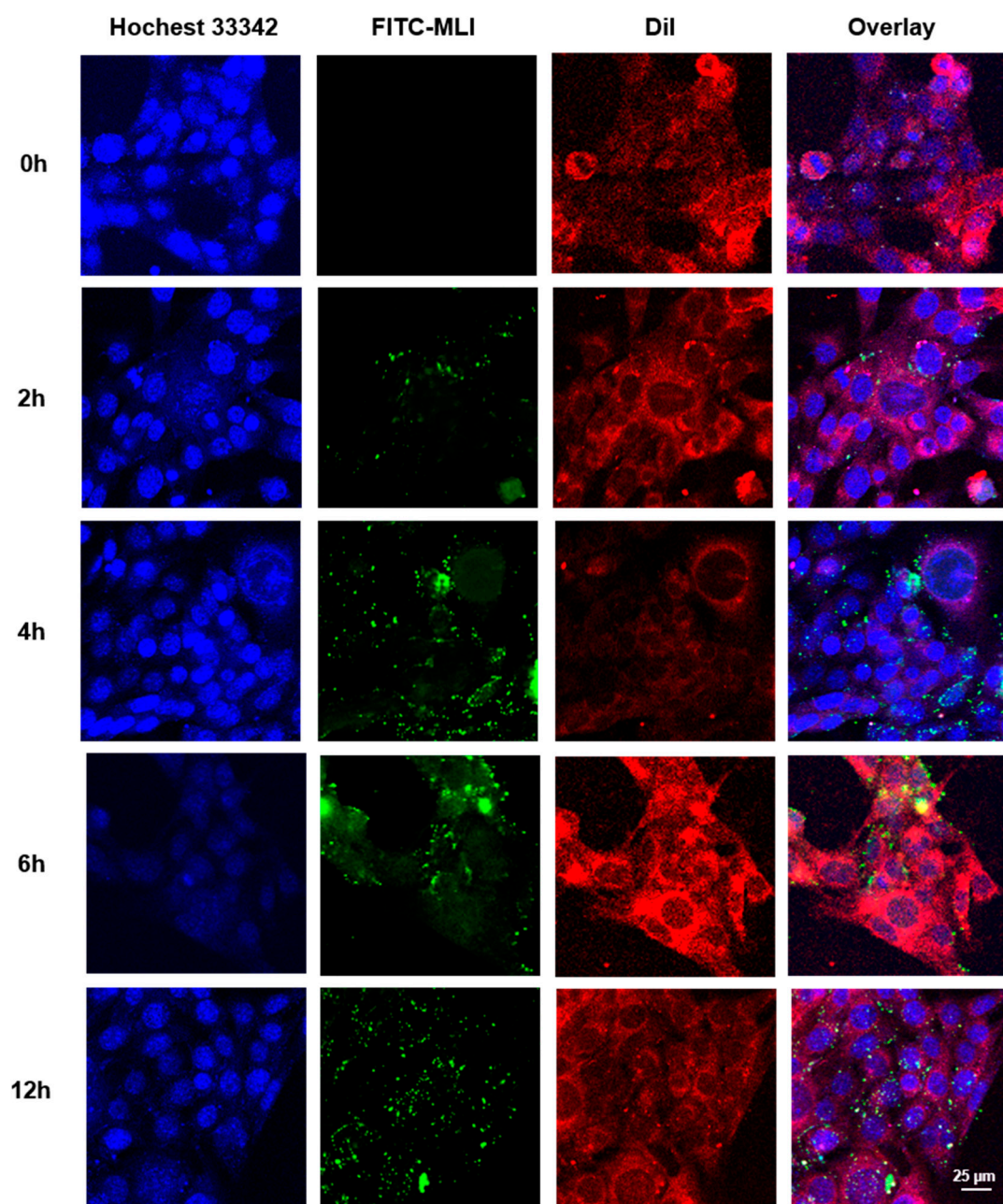


Figure S1. Cellular uptake of MLI to 4T1 cells at various incubation time. From left to right, Hoechst 33342-stained cell nuclei, FITC-labelled MLI, DiI-stained cell membrane and overlay images, respectively. All scale bars correspond to 25 μm .

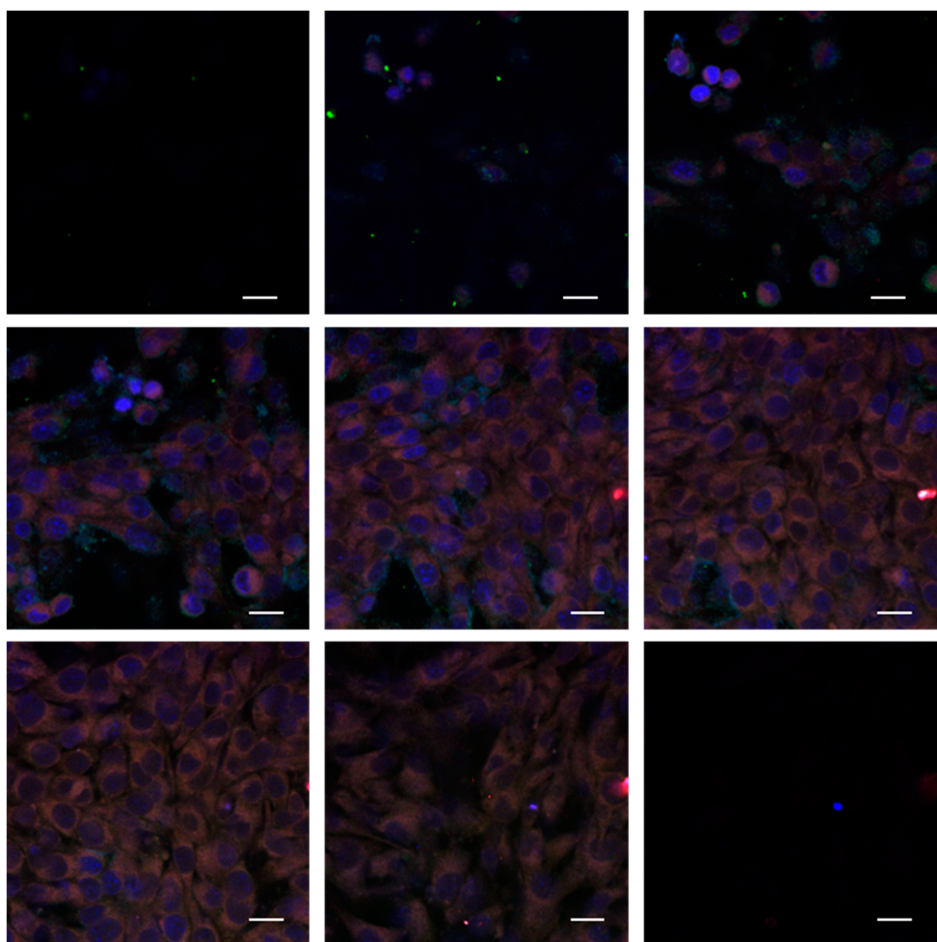


Figure S2. Z-stack confocal images of the Rhodamine B labeled LI, Hoechst 33342 and DiO dual-stained 4T1 cells. All scale bar corresponds to 50 μm .

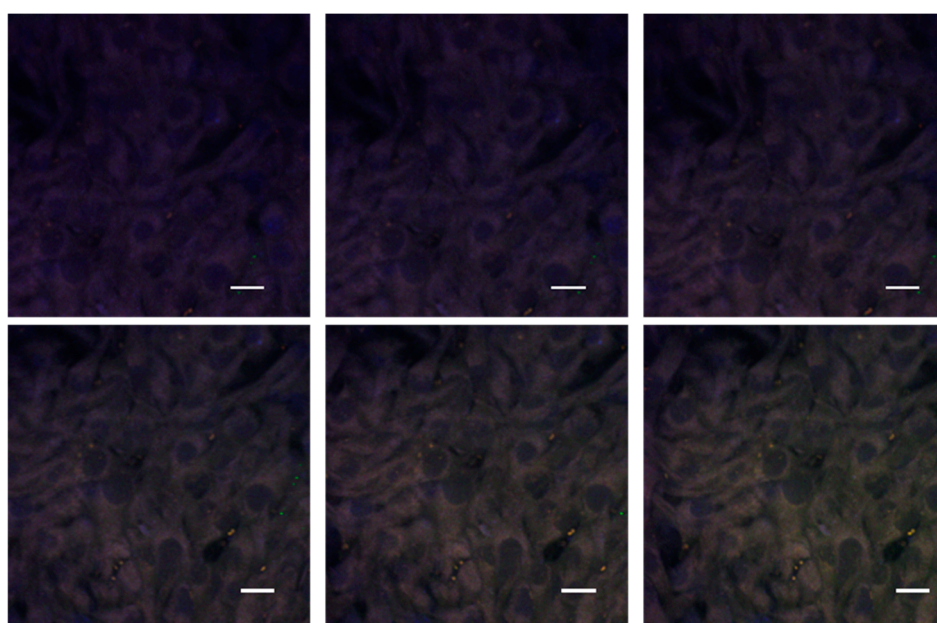


Figure S3. Z-stack confocal images of the Rhodamine B labeled MLI, Hoechst 33342 and DiO dual-stained 4T1 cells. All scale bar corresponds to 50 μm .

Reference:

[1] Chen Z, Zhang Q, Zeng L, Zhang J, Liu Z, Zhang M, Zhang X, Xu H, Song H, Tao C. Light-triggered OVA release based on CuS@poly(lactide-co-glycolide acid) nanoparticles for synergistic photothermal-immunotherapy of tumor. *Pharmacol Res.* 2020 Aug; 158: 104902. doi: 10.1016/j.phrs.2020.104902.